

Amendments to the Specification

Please replace the paragraph beginning on page 3, line 21, with the following rewritten paragraph.

Conventional SIMMs or DIMMs that utilize DDR SDRAMs typically involve placing the SDRAMs semiconductor memory devices on only one surface. At the relatively high speeds at which data is sent to and from each memory device, any mismatch and in trace length between, for example, a controller and the memory devices, will deleteriously affect performance of the memory module. Thus, lengthy trace conductors associated with some memory devices and relatively short trace conductors associated with others will degrade the overall performance and access times of the SDRAM -- an unfortunate event considering the goal of DDR SDRAM with multiple banks is to increase the access times.

Please replace the paragraph beginning on page 5, line 1, with the following rewritten paragraph.

According to one embodiment, a memory module is provided having at least one pair of semiconductor memory devices. A first or primary device can be arranged upon a first outside surface of a PCB, and coupled to a conductor extending across that surface. A second or secondary device can be arranged upon the opposing second outside surface of the PCB. Preferably, the second device is coupled to a conductor on the second outside surface and is directly opposite the first device. Thus, the primary and secondary devices can each comprise a midpoint between outer lateral edges of each respective device. A line or access-axis can extend through the midpoint of the first device and the midpoint of the second device. That access-axis will extend also substantially perpendicular to the first and second outside surfaces of the PCB. Stated another way, the first device is placed as a mirror image on a surface of the PCB opposite that of the second device. The outer lateral edges of the first and second devices are, therefore, though thought of as being essentially aligned in the horizontal plane if the PCB extends in a horizontal direction. Thus, the first and second devices can be thought of as aligned horizontally with one another, wherein the PCB is arranged between the two devices. Of course, it is noted that the PCB can extend vertically, whereby the first and second devices would then be aligned with each other within the vertical axis.

Please replace the paragraphs beginning on page 7, line 25, with the following rewritten paragraphs.

Fig. 6 is a table of pin connections between a memory controller and a pair of memory devices placed on an upper (top) surface of the PCB; and

Fig. 7 is a table of pin connections between the memory controller and a pair of memory devices placed on a bottom surface of the PCB; and

Fig. 8 is a circuit diagram of a driver and receiver combination implemented in SSIL.